

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 200300327-1

Inventor(s): William Robert Haas et al

Confirmation No.: 6123

Application No.: 10/844722

Examiner: Santiago, Mariceli

Filing Date: Aug 20, 2003

Group Art Unit: 2879

Title: Thermally Optimized Cold Cathode Heater

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JAN 09 2006

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Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT

Transmitted herewith is/are the following in the above-identified application:

- ☒ Response/Amendment
☐ New fee as calculated below
☐ No additional fee
☐ Other

- ☐ Petition to extend time to respond
☐ Supplemental Declaration

Fee\$

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS	16	MINUS	20	= 0	X \$50	\$ 0
INDEP. CLAIMS	3	MINUS	3	= 0	X \$200	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM					+ \$360	\$ 0
EXTENSION FEE	<input type="checkbox"/> 1st Month \$120	<input type="checkbox"/> 2nd Month \$450	<input type="checkbox"/> 3rd Month \$1020	<input type="checkbox"/> 4th Month \$1590		\$ 0
OTHER FEES						\$
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$ 0

Charge \$ 0 to Deposit Account 08-2025. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

I hereby certify that this paper is being
transmitted to the Patent and Trademark Office
facsimile number (571) 273-8300.

Date of facsimile: Jan. 9, 2006

Typed Name: Shannan Sullivan

Signature: Shannan Sullivan

Respectfully submitted,

William Robert Haas et al

By

L. Joy Griebanow

Attorney/Agent for Applicant(s)

Reg No.: 33,704

Date: Jan. 9, 2006

Telephone: 970 898 3884

Rev 1005 (TransAmoFax)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: William R. Haas, et al.)

Serial No.: 10/644,722)

Filed: August 20, 2003)

For: THERMALLY OPTIMIZED COLD
CATHODE HEATER)

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) Examiner: Mariceli Santiago
) Group Art Unit: 2879
) Confirmation No.: 6123
) Atty Docket No.: 200300327-1

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants respond to the Notice to File Corrected Application Papers - Notice of Allowance Mailed, copy enclosed herewith, mailed December 30, 2005 as follows:

Please delete the subtitle "CROSS REFERENCE TO RELATED APPLICATIONS" on page 1 of the present Specification and delete paragraph [0001] in its entirety, replacing same to now read as follows:

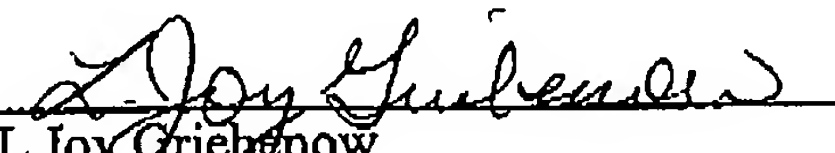
— [0001] (Omitted) —

Attached is a clean copy of page 1 for the Examiner's convenience.

Please contact the undersigned if you have questions.

Respectfully submitted,

Dated: January 9, 2006


L. Joy Griebnow
Attorney for Applicants
Registration No. 33,704

IP Administration, M/S 35
Hewlett-Packard Company
P.O. Box 272400
Fort Collins, CO 80527-2400
(970) 898-3884

THERMALLY OPTIMIZED COLD CATHODE HEATER

[0001] (Omitted)

FIELD OF THE INVENTION

[0002] The invention relates generally to devices utilizing cathodes, more particularly, to thermally optimized cold cathode heaters.

DESCRIPTION OF RELATED ART

[0003] Devices utilizing cathode emissions are employed in a number of electronic devices today. For example, optical scanners typically use cold cathode lamps for providing a light source to illuminate media and other objects being imaged. Although cold cathodes used in such cold cathode lamps provide field emission of electrons at ambient temperatures, field emission sufficient to provide a desired light intensity often relies upon the cathode being heated above ambient temperatures. In a typical configuration, it takes between 30 and 60 seconds for a cold cathode lamp in an optical scanner to warm-up sufficiently to provide a desired level of illumination for optical scanning.

[0004] A common technique for providing warm-up of a device utilizing cathode emissions is to delay operation a sufficient period of time to allow energizing of the cathode to heat the cathode to a suitable temperature. For example, an optical scanner may be programmed to delay the beginning of the first scan for 30 to 60 seconds. However, this technique often results in user dissatisfaction due to operational delays. To minimize wait times, the scanner may be further programmed to leave the lamp on for some period of time following a scan, e.g., for a period of minutes or hours, to avoid the aforementioned warm-up period between scans. However, this technique results in increased power consumption and may further be associated with premature failure of the lamp.

[0005] A technique implemented to minimize warm-up time with respect to cold cathode lamps has been to uniformly wind a heater wire around the exterior of the lamp. This

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DCKET NO.	CONFIRMATION NO.
10/644,722 ✓	08/20/2003 ✓	William R. Haas	200300327-1 ✓	6123 ✓
22879	7590	12/30/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			SANTIAGO MARICELI	
			ART UNIT	PAPER NUMBER
			2879	

Base Date _____
 Response Time _____ dys/wks/mths/yr
☐ OA ☐ JP OA ☐ Ext ☐ DATE MAILED: 12/30/2005
☐ EP 51(4) ☐ IDS Srch ☐ Eval Doc
☐ Rqd Docs ☐ Comments/Instr
☐ PCT
☐ Dckt Cmpl ☐ On Dckt
☒ Other Corrected app

Please find below and/or attached an Office communication concerning this application or proceeding.

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450Serial Number
10644722Date Mailed
12/30/05**NOTICE TO FILE CORRECTED APPLICATION PAPERS*****Notice of Allowance Mailed***

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 30 days from the mail date of this Notice within which to correct the informalities indicated below. A failure to reply will result in the application being ABANDONED. This period for reply is NOT extendable under 37 CFR 1.136 (a) or (b).

- ♦ Specification page 1, line 2 serial number is missing. Fax missing/illegible information to number below or e-mail.
 - For status updates visit <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR System, contact the Electronic Business Center (EBC) toll free at 866-217-9197.

APPLICANT MUST SUPPLY MISSING INFORMATION WITHIN 30 DAYS OF THE MAIL DATE OF THIS NOTICE.

A copy of this notice MUST be returned with the reply. Please address response to Commissioner for Patents P.O. Box 1450
Alexandria, VA 22313-1450

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703-305-0333 ext. 135 (V)

THERMALLY OPTIMIZED COLD CATHODE HEATER**CROSS REFERENCE TO RELATED APPLICATIONS**

[0001] The present invention is related to co-pending and commonly assigned United States patent application serial number [docket number 100203062] entitled "Attachment Method For Lamp Heater Wire," the disclosure of which is hereby incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The invention relates generally to devices utilizing cathodes, more particularly, to thermally optimized cold cathode heaters.

DESCRIPTION OF RELATED ART

[0003] Devices utilizing cathode emissions are employed in a number of electronic devices today. For example, optical scanners typically use cold cathode lamps for providing a light source to illuminate media and other objects being imaged. Although cold cathodes used in such cold cathode lamps provide field emission of electrons at ambient temperatures, field emission sufficient to provide a desired light intensity often relies upon the cathode being heated above ambient temperatures. In a typical configuration, it takes between 30 and 60 seconds for a cold cathode lamp in an optical scanner to warm-up sufficiently to provide a desired level of illumination for optical scanning.

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